

A N
I N Q U I R Y
INTO THE
NATURE AND CAUSES
O F
SICKNESS IN SHIPS OF WAR:

SHOWING

THE ERROR OF ITS BEING CHIEFLY ASCRIBED TO
MARITIME DIET, AND THAT IT CANNOT BE PRE-
VENTED BY THE ACIDS SO GENERALLY RECOM-
MENDED; BY WHAT MEANS THAT PREVENTION
MAY BE MOST EFFECTUALLY ATTAINED, AND
WITH LEAST EXPENCE TO THE STATE.

TO WHICH ARE ADDED,

A REVIEW OF SIR JOHN PRINGLE's DISCOURSE
ON PRESERVING THE HEALTH OF MARINERS,
WITH OTHER MEDICAL DISQUISITIONS;
INCLUDING REMARKS ON THE NEW DISPENSATORY OF
THE LONDON COLLEGE OF PHYSICIANS.

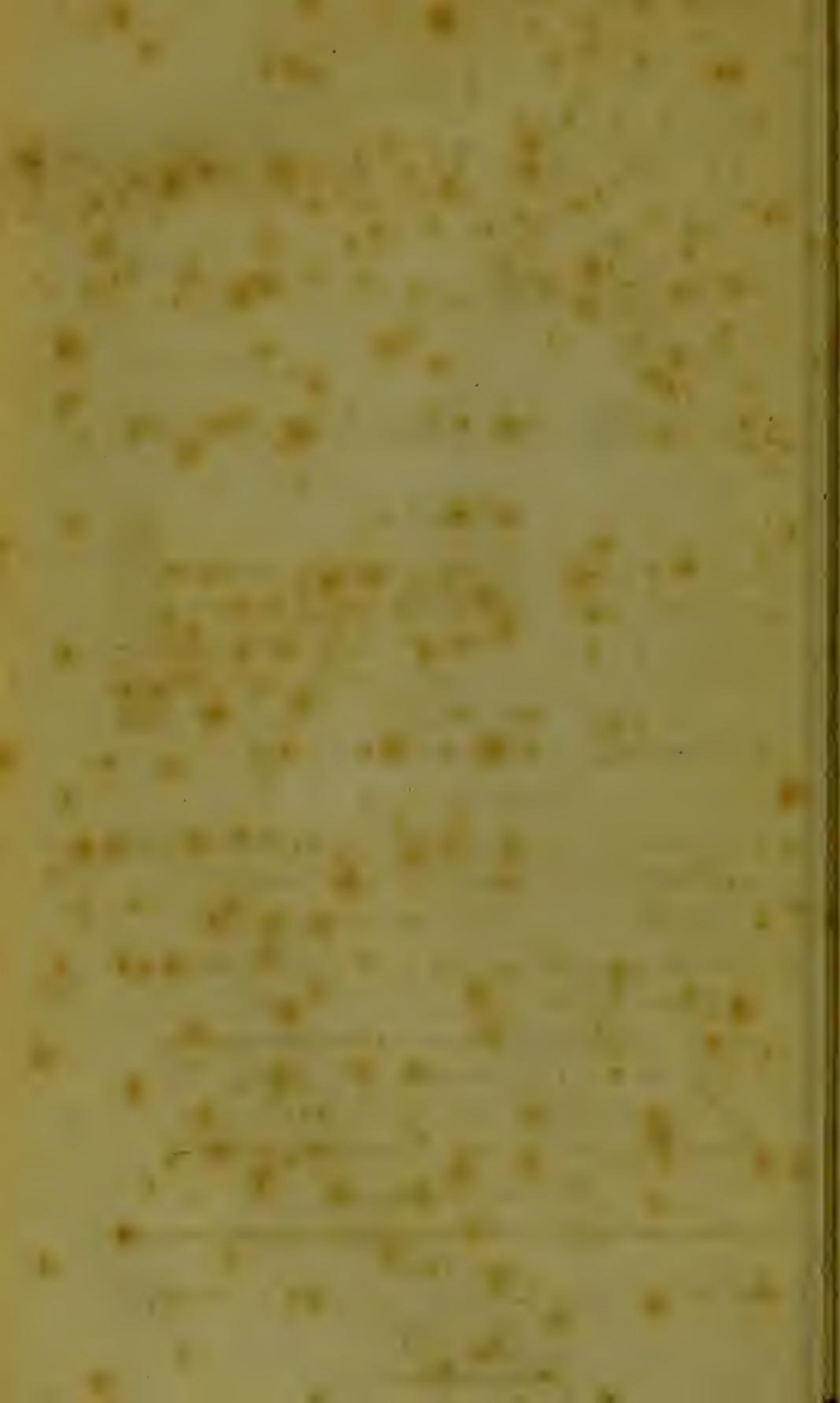
BY WILLIAM RENWICK,
SURGEON IN THE ROYAL NAVY.

Salutis communis interest.

L O N D O N :

PRINTED FOR J. EVANS, PATERNOSTER-ROW; AND T. WHITEWOOD,
PORTSMOUTH-COMMON.
M,DCC,XCII.

[Price Two Shillings and Sixpence.]



To Sir CHARLES MIDDLETON, Bart.

SIR,

PERMIT me to manifest to the world the continued veneration you so eminently claim. However the dedication I have chosen may politically vary from general practice, the sentiments I am free to promulge will I trust be esteemed the more ingenuous: a reflection I could not so well indulge, while you retained the supremacy in which the most transcendent abilities, united attention that perhaps had never before been exhibited in the same department of the public service. My sincerity in these asseverations will have the greater credit,

because they were consentaneous with the general acknowledgments of those who were less disposed to regard the public welfare; nor need I linger to add the moral pre-eminence by which characteristic merit is ever most favourably distinguished.

Such, Sir, is the tribute I have been tenacious to render when you are no longer possessed of power; and am sorry I have no other way of testifying the perfect respect with which I have the honour to be,

Sir,

Your very humble,

And most obedient servant,

WILLIAM RENWICK.

NUMEROUS

NUMEROUS are the considerations that should dispose Sovereign Powers to accommodate their disputes by some pacific mode of general reference, rather than by the hostile procedure in customary adoption. Such tranquil decisions would be more consonant to the moral obligation of civilized nations, and more effectually tend to preserve the balance so often urged in defence of slaughter and devastation. Partial alliances for this purpose are evidently insufficient ; as they are a kind of virtual defiance that occasions an opposite combination, with its natural consequences where the scale preponderates.

— Such is the preface that was written, together with the subsequent sheets, during the late armaments. The restoration of the public tranquillity has since been propitious to the country whose burthens, however oppressive, further hostilities would have eventually enlarged. Hence the praise that is due to the Minister and other Members of the Cabinet ; whose primary object, in the councils of Government, appears to be the continuance of the general repose.

In all the efforts to which he has returned, it has ever been the writer's inclination to adopt a language that was equally suited to the importance of the subject he had occasion to discuss, and respectful to the State he has the honour to serve. How far he has been enabled to continue such a mode of address, he again submits to the public decision.—What might be added, is reserved for the hour in which the residue of life solicits exemption from services which, however imperfect, have so long been exerted for the public good.

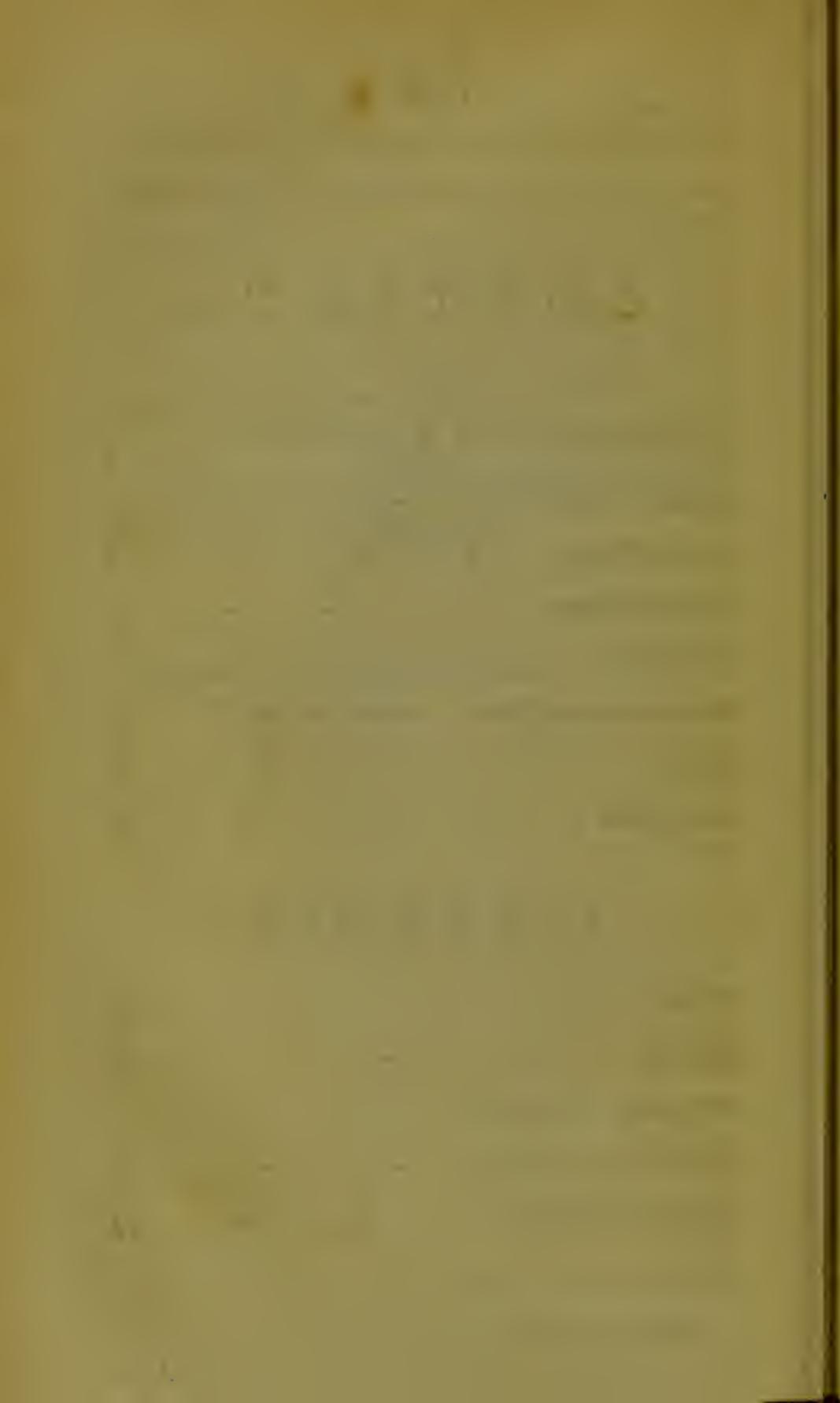
*Brunswick, in Portsmouth-harbour,
April 24, 1792.*

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A N
I N Q U I R Y
INTO THE
N A T U R E & C A U S E S
OF
SICKNESS IN SHIPS OF WAR.

HOWEVER unavoidable public burthens may be apprehended in the support of government, they are often extended by causes it were easy to obviate. This however, as in other grievances, can only be effectuated in a correction of the errors in which they are prevalent. On such occasions it is generally more practicable to exhibit defectibility, than to elicit reform.

The morbid state of his Majesty's fleets, in the periods of war, has been found to produce an extensive part of the national debt, together with frequent invasions on the liberty of the subject. The alleviation of such evils is manifestly of the first importance to the general welfare. That all the means adopted for this purport have hitherto been very insufficient, the records of office will amply testify; and the retrospect is so pregnant with calamity, as to claim

the equal attention of statesmen and the community at large. To behold thousands of the human race precipitated into situations where they are literally *poisoned*--is a consideration that will not fail to impress the feelings of those who are either susceptible of humanity, or disposed to regard the vicissitudes of empire. That impression will be the greater in the notoriety of circumstances that have been told to departed senates, and may deepen the annals of future detail.

These sentiments recurred to the writer in reading an abstract of an elaborate discourse (printed for the Royal Society) on preserving the health of mariners, by the late Sir John Pringle, physician to the Queen. Conscious of his professional inferiority, and surcharged with various cares unfavourable to authorism—it is not without sufficient diffidence he resumes the cause in which he has so often embarked, and where the tribunals by which he has been adjudged, have announced claims on the gratitude of his country that have not been fated to avail him. Hence the appeal he had occasion to contemplate on the official recession of one of the most venerable characters the world has ever produced. *

In

* " Mr. Renwick, to whose merits we have often borne a willing testimony, deserves much, and he has not been wholly disappointed; yet with great merits and laborious services, he should not be left to contend against the billows of a troublesome world. When we reviewed his various Addresses, we were not aware that he was, in fact, pleading for an amiable wife and a promising family. We wish he had been more successful—His mind appears to be well regulated, and well informed. His language is elegant; his poetry pleasing, tender, and pathetic."

In prosecuting the subsequent discussions, it may be premised that in the service to which they appertain, there is no end to the completion of complements, even in the most tranquil periods; and while fleets are yet stationary, pestilential diseases are frequently prevalent. Hence sums annually granted for maritime expenditure, however extensive, have always been found insufficient; and this has occasioned the bills of credit for which additional taxes are ultimately requisite.

These events are the more extraordinary after the abovementioned society, deluded by the state of a single ship (to be found in the sickliest squadrons) has promulgled to the world, that the sea affords a more salutary residence than the shore, and congratulated the nation on a discovery by which the health of seamen would in future be effectually preserved. So little was this verified on the resumption of hostilities, that under similar circumstances, there is reason to apprehend naval squadrons would, in a voyage of equal continuance, be in no better condition at the present hour, than at the period in which effects ascribed to the scurvy were those of a putrid fever, originating in the contagious effluvia hereafter mentioned. Even the shortest cruises still exhibit the sickness to which indiscriminate manning will eventually contribute. It was therefore that a considerable draught of men where the writer's appointment had been deemed especially necessary, were reported to be *in toto* unfit for service.—The commander in chief being informed they were the best men in the ship from whence they were sent (which by no means proved their eligibility), the writer was

ordered to account for his conduct. This only required a statement of facts, and the facility of conviction did honour to the Admiral's understanding: who permitting the writer to select the exchange, caused a letter to be written in which it was shrewdly observed, that there could be no objection to part with an equal number of *worse* hands for such as had been esteemed the best; and the purpose was effectually answered.

Further remarks will be best comprised in their subsequent arrangement. If they should not extend to the minutiae of scientific amplification, it will be recollect that the small-pox was long conceived a subject for voluminous discussion, till discovered to be a malady that required only cool air and regimen, together with ventral solubility: remedies that are equally essential to the cure of every other febrile prevalence, more especially in children; whose extensive mortality is chiefly founded in the errors of prescription or the nursery, and of whom it may more generally be said, *Natura optima morborum medicatrix.*

M E P H I T I C V A P O U R.

However requisite nutritious aliments are found for repairing the waste occasioned in the operations of the animal œconomy, existence is primarily derived from a vital principle diffused throughout the universe, for the necessary purposes of respiration. Hence it is evident that health will be most injured in its depravity, and the most pestilential disorders originate

originate in that contamination. Even the plague itself is engendered from the humid warmth of unwholesome elements.

— *Ubi putrorem humida nocta est
Intempestivis pluviisque et solibus ita.**

It is said to be yet undecided whether there is any other air in the blood than what is contained in the chyle of which it is formed. There certainly *is*; and *that* received from the inflation of the lungs in the act of breathing: whence the floridness which the circulation exhibits in the pulmonic veins. Whatever, therefore, destroys the elasticity by which these effects are communicated renders the blood vapid, and diminishes the power of the vital functions. Hence muscular debility and other symptoms of morbid affection.

The precedent considerations evince the necessity, in warm weather, for greater ventilation in places of religious assemblage on shore than is usually admitted. Nothing is more manifestly inconsistent than the exclusion of natural air where every person requires a supply of ninety gallons, and the efforts to obtain an artificial coolness, from the instruments adapted for the sex whose eventual languor volatile salts and other stimulants are so often necessary to relieve. It is remarkable that the disease called St. Anthony's Fire, with other complaints of the face, are more common to women than men; and that such maladies will be induced by the undulations spoken of, is evident from the natural effect of cold on any part of the body that is overheated. It is therefore that

the

* Lucretius de pestilentia Athenarum.

the disorder first mentioned is mostly prevalent in summer, and has its origin in obstructed perspiration subsequent to increased warmth: whence the greater occasion for avoiding the latter in a country where a chilly evening often succeeds the hottest day.—It may further be added, that without the ventilation recommended, every infection may be inhaled from the circulation of distempered particles, more especially those from the dead; the contagion of disease being most virulent after death and the commencement of putrefaction. Hence there is reason to believe that many disorders originate in churches and other places of religious communion; the perversion of which to a purpose so manifestly obnoxious to the living, is one of those inattentions that disgrace the polity of every country where they abound.

To facilitate their cure, diseases have been arranged under particular classes to which, from constitutional diversity and other circumstances, it is often difficult to reduce the complaints of corporeal indisposition. The scurvy, or the disease so called, is one of those maladies in which there appears to be no fixed criterion, and about the nature whereof professional writers are not yet in perfect coincidence, however distinguished in the multiplicity of detail.—Be this as it may, what has been usually esteemed the scurvy on shore, has no affinity to the pestilential sickness so destructive to seamen. The fact is, that the latter is not occasioned by the diet to which it is so generally attributed, but to mephitic exhalations by which the animal fluids are very differently affected. Hence the misapplication of remedies that, like animal magnetism, are only calculated to amuse and delude. In vain

vain would prescription sustain the vital powers where the blood is deprived of the vivifying matter so essential to health. What can vegetables or acids avail while the source of infection continues they have no tendency to rectify. The distribution of oranges and lemons proved less favourable to the channel fleet, in the late war, than would have been as many pinches of snuff; nor did the plentiful use of "sour cabbage" preclude the necessity of encampments where, in a freer circulation of air, though not the most salutary, recoveries were sooner effected, than in the crowded wards that gave so much employment in the last offices of attention. *

However medical authors may otherwise differ—in delineating the proximate causes of "scurvy," they equally agree that salted provisions and putrid air induce the same disease. The contrary is, however, manifested in the different effects of each when not in conjunction. Those of the former, in a wholesome climate, are chiefly exhibited in crustaceous and other cutaneous eruptions, that have no similitude to the livid fugillations and sanguinous ulcers produced by the latter, together with febrile and other characteristic affections. Seamen habituated to a maritime residence, are found covered with scales for months, and sometimes years, without being incapacitated for duty.

In

* The science having been mentioned that professes to cure diseases by the powers of sympathetic attraction, it may naturally be apprehended that such powers will be most extensive where the operator and the patient are of different genders. It is perhaps in this consideration that a celebrated lecturer tells his Audience, a man may alleviate the pains of his wife in the hour of

In tracing the general origin of naval sickness, it will be necessary to observe that the vapour in a ship's well is often so deleterious, as to occasion an immediate suspension of the vital functions; nor is it difficult to conceive their progressive debility in a more remote influence of the contagious emission. This is more especially the case in ships that have their bottoms very tight. Hence it occurs that new ships are generally the sickliest, while those which are leaky are commonly found to be more healthy: a distinction that further evinces the mistaken idea respecting the diet which being the same in both, should produce the same effects.

On the resumption of armament, ships are commissioned that have been long in a tranquil state; and in which, during that period, the wells that are no otherwise purified, are only pumped when the water ascends to a certain height. This in most ships being said to be only once in the course of several months, it is easy to imagine how putrid must be the contents of which a part always remains undischarged. Agitated by the ship's motion when under sail, the most deleterious particles continue to evaporate, and to poison the decks where a necessity of closing the ports increases the evil. To this may be added the injudicious custom of pumping the wells in the *morning* watch, when the stomach and brain are

Nature's sorrow; but unless the science has the further power of rendering them unnecessary, their alleviation will also procrastinate the birth. It is therefore to be hoped that no husband will prove so untimely tender; or that he will be duly castigated by the surrounding matrons, who are always judiciously solicitous to have the business over.

are least defended against the vapour then most obnoxious.

Under these circumstances many of the crew are soon debilitated, from a morbid affection of the spirits on which all pestilential effluvia so immediately operate, and the powers of the moving solids essentially depend: whence the varied phenomena so much hakened in professional detail. In particular habits, excrementitious humours erode the cellular texture, and Nature finds a vent for the imbibed poison; in others, a malignant fever is earlier prevalent. The former being less susceptible of febrile affection, evinces the propriety of blistering in the latter. This is further indicated in variolous disorders; where Nature endeavours to transude the morbific matter through the exterior membranes, but which in great debility she is unable to effectuate. Hence the fatality which in particular ships, where the miasma is most infectious, occasions such a succession of hands, that in a short time they scarcely retain any share of their primitive complements.

It may here be regretted that a limited number of seamen's wives are not employed as nurses where such assistants are no less wanted than at hospitals on shore. Were they denied to the latter, how inefficacious would be the prescriptions of the dispensary. In sultry seasons and climates, a supply of bed-linen is conceived to be equally requisite. Wrapped in the same dirty blankets for a continuance of time, disease—from the power of the absorbent system—naturally accumulates, and becomes eventually more malignant.

After war has been some time in continuance, the *bilge-fever* (as it may properly be termed) is found to

be less general, and to assume a milder form; the vapour in which it originates becoming less putrid from the relaxation of the ship's timbers during the course of service, and the surviving crews growing so habituated with the ship's atmosphere, as only to be affected in the manner antecedently noticed. Themistocles, the Athenian general, is recorded to have been from his infancy so accustomed to poison, that when he wanted to destroy himself by its influence, he was not able to effect it.—It is proper to add, that before the period arrives in which febrile sickness has been said to diminish, provinces are depopulated to replenish the thousands to whom it is previously fatal.*

It is generally asserted that scurvy, *sine pyrexia*, does not affect the stomach; because there is, it is said, no want of appetite. This, however, is no substantiation of the soundness contended for; appetite being often vitiated from a depravity of the menstruum most favourable to corruption. Nor can the digestive organs be naturally supposed in a salubrious state while every other part of the system is diseased. It is probable, for the very reason assigned to disprove it,

* It often happens where the crew have obtained the habitude above-mentioned, that on the incorporation of impressed men who have never been at sea, a contagious fever supervenes. This has led into error the most eminent writers; who have always asserted, that the ship was in a healthy state till infected by disorders *received* with those that might have continued free from sickness,* had they themselves not been infected by the ship. Learned authors appear to be equally mistaken in ascribing to the perspiration of the timber in new ships, effects shown to have a more deleterious origin.

it, that the disorder spoken of *does* affect the stomach, by increasing the irritation of the gastric fluid.

The same writers derive the strength or weakness of the ventricle from the quantity of acids it is able to assimilate; but as their effect, like that of other aliments, depends on the quality of the predominant humour, such a criterion is manifestly fallacious. This is evinced in putrid fevers: where the stomach, when in the weakest state, can digest acids that would be found obnoxious in a state of perfect health. It is also easy to comprehend the facility with which biliary temperaments assimilate the most pungent fruits: whence their general utility in climates where the bile is more exalted than in northern regions. For the same reason their impropriety in the latter is no less evident: where the stomach complaints ascribed to biliary redundancy, are generally occasioned by the acrimony of undigested aliments.*

The principal cause of maritime diseases having been premised, it remains to point out the most effectual means of mitigating the evil. These must be such as are equally powerful and *continued*: the health of a ship more especially depending on the pre-

* No medical subject has been more canvassed than the process of digestion. Mr. John Hunter, whose professional eminence is so generally known, is certainly right in ascribing it to a solvent humour in the coats of the stomach—or what should have been rather described the glandulous *interior* one; but he is no less certainly mistaken in apprehending that solution to be effected without the muscular compression necessary for ejecting the contained menstruum, and for which the exterior coats are evidently designed. It is therefore that digestion is most perfect in the laborious part of mankind, or those whose viscera are most compressed by exercise.

vention of sickness, and which (were they possessed of that power) could not be effectuated by a general use of the supplies usually recommended without ruining the state, and therefore rendering the cure worse than the disease. During the prevalence of the latter, the sick (when opportunity serves) are sent to an hospital, and tobacco or some other medicinal smoke is for the instant usually added to the burning of gun-powder; sickness having been found to decrease after engagements in which a great quantity of the last article had been expended. This has been attributed to the diffusion of the sulphureous particles, and therefore recommended by scientific writers; but manifestly effected in the concussion by which natural thunder is known to purify the general atmosphere.

It being so evident there must, from putrid bilge-water, be a constant emission of poisonous vapour that can only be excluded by sweetening the place from whence it proceeds, the remedy must be such as will reach the source of the evil, and produce the rarefaction necessary for expelling the foul to which fresh air will immediately succeed. It is also requisite that this purification should be *unremitting*, and that the remedy should therefore be adopted to every season, and independent of manual operation. Hence the insufficiency of what are called windsails; as they can neither be used when there is much wind, nor when there is too little to keep them inflated. They are consequently of no service when ventilation is most necessary; nor are they at any time appropriated to ventilate those parts of the ship where the air is most putrid. From interfering with the ship's navigation, and not being suited to all sorts of weather, they

are obliged to be often taken down; and being troublesome in putting up, are seldom used during the night, when air is most wanted to purify the respiration of the crew who are sleeping between decks. Many of those, more especially the sick, would also suffer from the unequal and impetuous descent of the external atmosphere in every variation of its temperature.—It may here be further observed, that the putrid air has not that immediate discharge which is only effected by the element without which houses on shore are known never to be wholesome. *That element is FIRE:* the influence whereof can only, in ships, be sufficiently conveyed through such a medium as was proposed to Government about fifty years ago. The machine alluded to is the air-pipes of Mr. Sutton; of which a favourable account was published by the first royal physician of that period. The difficulties of serving the public on such occasions are strikingly manifested in the vindicated artisan: who was at first conceived to be out of his senses, and afterwards received the opposition that for some time tended to frustrate the success of his communications. It is painful to read the narrative that disgraces the British annals.

A trial was at length ordered to be made in a single ship sent to the most unhealthy part of Africa; the commander of which reported on her return, that the ship had been perfectly healthy; but that as she had “made water enough to keep her sweet, the use of the pipes could not be judged of.” The comment on this report justly observes that had the ship been sickly, their *inutility* had been readily asserted. An inconvenience was also represented which the inventor’s ingenuity soon removed; but it was not till some time

time afterwards, that Government would admit the introduction so assiduously recommended by the author's patron, Doctor Mead: whose benevolence and humanity were equal with his professional eminence, and whose communications to the Royal Society on this important subject were read on the 11th of February, 1742; as were also those of no less distinguished merit by Doctor Watson, on the 1st of April in the same year. Neither these dissertations, nor the personal exertions of the worthy writers, proved at that time effectual; and although the testimonies of a British Admiral subsequently evinced their utility, a very inferior invention was suffered to supersede the best that ever appeared: being not only in continued efficacy, and *that* from its own action—but consuming the putrid effluvia in the instant of their extraction, which other contrivances leave to contaminate the premises through which they are diffused.

The writer is sorry to differ in opinion with Doctor Lind (whose professional abilities are so justly eminent) respecting the ventilators that excluded a continuance of the pipes; having seen their insufficiency in requiring manual labour, and their incapacity of extracting the air which the ship's tightness occasioned to be so pestilential, that a considerable part of her crew were found to have been buried during a cruise of only a few weeks continuance in a favourable climate. Nor did a temporary attention to the ventilators contribute to sweeten the vapour which—not being previously corrected—pumping only served to render the more infectious. Here, as it is more or less in every man of war, the most prevalent occasion of sickness was evident; many of the

crew expiring in the midst of their meals—a circumstance generally adduced to prove the malignant nature of “scurvy,” and the necessity for a plentiful supply of acids and vegetables; though mortality has, in such situations, been known to ensue before the unfortunate victims were twenty-four hours on board, and consequently before there was time for *saline diet* to produce the disease so usually ascribed to that cause. Seamen accustomed to such contagious malitia, are only progressively susceptible of *chronical* malady; but to landmen who never before inspired the poison, it sometimes proves so immediately fatal, that impressed hands brought on board in the evening, have in the morning been found dead in their hammocks.

The disuse of the pipes is the more to be regretted, because there can be no other contrivance so well suited to convey its influence to every part of the ship; which will itself be the longer preserved from decay, but more especially the provisions in which there is always so much corruption.—A noxious powder was in the last war sent to the channel fleet, for the purpose of destroying the insects by which bread, even on *home* service is always so much injured; a circumstance that could scarcely have occurred in the recollection that effects can only be successfully combated in the removal of their causes, and that the insects spoken of were generated by the putrid humidity which the powder was neither calculated nor proposed to rectify.

Writers whose prescriptions are analogous to the above preparation, are early in ascribing the health of any particular ship to circumstances where decision

can only be founded in conjecture; but every ship's well will afford the positive evidence communicated by the before-mentioned admiral; who writes from the Cape in the following terms: "I cannot help observing to their Lordships, that the bilge-water on board the Namur in particular has not been the least offensive the whole passage; though it was so bad before the introduction of Mr. Sutton's pipes, that three or four men were like to be suffocated by only coming near the well. I cannot therefore but recommend them as things highly useful on board his Majesty's ships." The admiral also mentions the squadron's having procured "refreshments" on the passage; but they were not used to correct the poison against which the hospitals at Spithead continue to show such provisions are no security. Nor can any thing be more delusive than to talk of remedies for sickness where the continuance of its origin must either counteract the efficacy of prescription, or (admitting that efficacy) renew the disorder as soon as the remedy is discontinued.

The trifling sum given by the Treasury after much solicitation, as a reward for the trouble and expence attending the invention last-mentioned, indicates the author to have been poor; a circumstance that should rather enlarge than diminish the extent of such compensations. The public welfare has a claim to the attention of ingenious and intelligent individuals; but discouraging treatment is a great hindrance to the progress of their services. Liberal munnerations will always be in favour of national prosperity, when judiciously conferred, and not confined to the influence of patronage that frequently escapes the greatest

greatest desert.—These remarks are the rather introduced, because mistreatment and neglect have alienated from their country those who were most attached to its interest. Whatever may be the adoption of ultimate constraint, the writer's adherence to his sovereign will appear in the stanzas that have been occasionally written, as well as in the effusions which a distinguished peer was pleased to recommend to the attention of those who were highest in office; and which, by the courtesy of friends, had almost conferred pre-eminence without the ceremonials of institution.*

It will be sufficient to add that the advantages which the machine recommended possesses over all others are the following: It is most commodious and least expensive—requires no manual operation—may be extended to every part of the ship—prevents, in its extraction, the putrid air's contaminating the fresh; and what is superior to all the rest—has no intermission of its effects. The subsequent abstracts will serve to confirm what has been advanced.

† “ I have often said that it is not, in our *own* country at least, so easy a thing to serve the public

D. “ as

*“ Addescombe Place, Sept. 29.

“ Sir,

“ I received your letter of the 18th instant. It is not usual to present in form to his Majesty the Address of an Individual; “ but I will deliver it to his Majesty's Secretary of State, that “ your loyal and dutiful sentiments on the late providential “ escape of his Majesty may be known.

“ I am, Sir, your obedient humble servant,

“ HAWKESBURY.”

† Dr. Mead.

" as is commonly imagined. They who are acquainted with the several motives by which men are actuated, and which occasion the most salutary proposals to be treated with contempt and neglect, will readily see the springs of this seemingly unaccountable disposition of mind. I would not have it thought that this remark is occasioned from what I may myself pretend to have done for the benefit of the public; but it is sufficiently justified by the opposition to a machine of such simplicity and advantage that, as it is surprising to see the greatest pains taken to make it abortive at first, so it is no less strange that it has not since been more universally used in his Majesty's navy."

* " Air-pipes were first found out by one Mr. Sutton, and thence called Sutton's pipes. The principle on which their operation depends is the necessity of air for the support of fire; which, if not accessible from the places most adjacent, will not fail to come from those that are more remote. Thus, in a common furnace, the air enters through the ash-hole; but if this is closed up, and a hole made in the side of the furnace, the air will rush in through that hole. If a tube of any length whatever is inserted in this hole, the air will rush through the tube into the fire; and of consequence there will be a continued circulation of air in that place where the extremity of the tube is laid. Hence Mr. Sutton's contrivance proposed to clear the bad air from every part of a ship by means of the fire used for boiling the ship's coppers.—Several other contrivances

"trivances have been used for the same purpose; and
 "Dr. Hales's ventilators, by some unaccountable
 "prejudice, have been reckoned superior in efficacy
 "and even simplicity to Mr. Sutton's machine;
 "which at its first invention met with great opposi-
 "tion, and even when introduced by Dr. Mead, who
 "used all his interest for that purpose, was shamefully
 "neglected."

* "I cannot but observe how much it is the duty of
 "all those who have any influence in the direction
 "of our naval affairs, to attend to the preservation of
 "the lives and health of seamen. But has this been
 "always done? Have the late proposed means of
 "keeping our ships sweet and clean, by a *constant* sup-
 "ply of fresh air been considered as they ought to
 "have been; and have not those intrusted with ex-
 "perimenting their effects, been guilty of the most
 "indefensible partiality in the accounts given of these
 "trials?—Indeed it must be confessed that many dis-
 "tinguished persons, both in the direction and com-
 "mand of our fleets, have exerted themselves on these
 "occasions with a judicious and dispassionate exami-
 "nation, becoming the interesting nature of the en-
 "quiry; but the wonder is, that any could be found
 "irrational enough to act a contrary part, in despite
 "of the strongest dictates of reason and humanity."

Thus far the writer of the present sheets claims no
 other merit than having endeavoured to revive an at-
 tention by which millions of the public money might
 be saved, and thousands of the defenders of their coun-
 try, with perhaps the empire itself, eventually pre-
 served.

PUTRID WATER.

A secondary cause of naval sickness is putrid water. This is the more extraordinary, Government having, a few years ago, paid *five thousand pounds* for the communication by which it was said the water of the sea might in every ship be easily refreshed and made wholesome. Only *a hundred* were allowed for the more important discovery antecedently discussed!!!

Bad water is the more deserving of consideration, as it often occasions epidemical fluxes; the cause of much mortality both in the navy and army. Too little regard is paid to these circumstances in the indiscriminate manner in which his Majesty's ships are usually watered: an operation that requires an equal attention to the place of supply, the state of the weather, and that of the casks into which the water is received. It is also necessary that the latter should not be quite filled; in order that there may be room for agitation from the ship's motion. Further remarks on this fluid are reserved for another department.

It is generally asserted that the beer used in the navy serves to prevent sickness, ships being most sickly after its expenditure: but this is no otherwise founded than in the greater tendency to disease during a continuance of the cruize, and because while the beer continues, a less quantity of water is drank. The former will appear to be ultimately obnoxious to health, when it is considered that the agitation of the sea soon renders it vapid and unwholesome. How eligible, therefore, would be the adoption of a preparation that would not be subject to the same inconvenience. From an inspissated decoction of

the

the tops of spruce-fir, a beverage always recent may be easily obtained; and which being always suppliant, excludes the necessity for spirits that are generally of a bad quality, and therefore manifestly pernicious. It is to be regretted that the same alteration is not adopted in the latter articles that has been extended to others of less importance. The cheese that was formerly of the woist species, is now as good as what is in general use on shore; of which only about half the quantity is distributed. A similar proportion of the best rum or brandy, instead of what is usually served, would be equally nutritious and more salutary. A greater quantity of inferior, though diluted in the customary manner, has the inflammatory tendency that occasions an additional use of water *per se*; whence fluxes are often derived.

The extract that has been mentioned might be made by the ships' companies that annually go to Newfoundland (where utensils necessary for the process might be erected), and imported on their return without any expense to Government; the plant as well as the labour costing nothing. Hence an immense saving would accrue to the public, in the exclusion of expensive and less wholesome supplies. These advantages will be more conspicuous, when it is recollectcd that the beer for which the extract is designed being so easily prepared on board, it might exclude altogether the drinking of water in the corrupted state which the fermentation would serve to correct. The beer now in use, while it continues good, has been generally conceived to agree better with seamen than what is called grog; but its early declension admits of only a temporary supply, and *that* of short continuance. Here is a succedaneum

oaneum that may always be had in the greatest periection; and to which the easy portability of the essence is a further recommendation.—It need only be added, that a less quantity of both water and beer would suffice in the use of the fragrant infusion subsequently introduced.

S A L T E D A L I M E N T S.

Salted food is next in succession among the prevalent causes of maritime mortality. This having been generally esteemed the first, antidotes have been provided that are only calculated to increase the expences of armament. These may be happily expunged in the substitution of a single article of diet which the writer has been the first to propose; and which, in its continuing efficacy, would be similar to that of the recommended process for keeping the ship constantly sweet.

In the dissertation previously mentioned, the learned author is apprehended to be very diffuse in extolling medicinal properties that are either manifestly ambiguous, or of slender extension; while no notice is taken of an oriental vegetable, the known qualities of which give it a decided pre-eminence. The infusion of TEA, sweetened with sugar, combines every salutary virtue; and exceeds the whole of the enumerated articles in promoting the secretions essential to health, and correcting whatever is obnoxious either in aliment or inspiration. Hence scorbutic and other eruptions that were formerly more prevalent, are now only common to seamen and those who do

do not participate in the daily use of such a grateful beverage.—By deterging the circulation from excrementitious impurities, it is equally the best preservative against cutaneous and every other disorder arising from a depraved state of the humours. However numerous the genera of human maladies, their general prevention and cure consist in the excretions of which the most essential is natural perspiration. It is therefore that all chronic diseases are least urgent in the summer-season; when the capillaries are most open to cutaneous emission, and the pectoral ramifications most favourable to pulmonary. Persons of slender habits are generally more healthy and sooner freed from indisposition than the corpulent, in whom perspiration is less extensive; this subtle vapour being different from what is called *sweat*—separated from the blood by the miliary glands, and in the profusion whereof the former, from the compression of its pores, is eventually diminished. Hence the inefficacy of copious sweating in disorders to which *perspiration* is usually favourable.

Diuretics, and such bitters as do not irritate the nerves of the stomach, or contract the lacteal orifices, are among the most effectual remedies for the cure of the scury. The Chinese plant produces a gentle astringion superior to every other tonic, and is known to be more diuretic than any other diluent. Its early discharge by the kidneys evinces its utility in all disorders resulting from intemperance; powerfully mitigating the usual effects of ebriety, and removing the crapulary languor consequent to convivial excess.

Nor are the *sedative* virtues which tea so eminently possesses, owing to the narcotic influence by which

which it is so much decried by medical writers; but to its alleviating vascular constriction in the transudation of superfluous humours, and replenishing the animal spirits by its temperate cordiality. "That tea affects the nerves," says the respectable author of Domestic Medicine, "is manifest from its preventing sleep." But as this prevention, except in particular constitutions, is not occasioned by any painful disquietude, but in facilitating the spirituous influx—such affection rather evinces its salutary than pernicious tendency. The nerves are thereby rouzed from the languor inductive to drowsiness (which may indeed make it an improper *supper*), and the whole frame is rendered more vigorous and animated. Hence its being found more refreshing after fatigue or laborious exercise, than stronger drink or more substantial aliment; and a temperate man will say that he can work longer on a breakfast of tea than of any other food.

"The morning," continues the domestic physician, "is surely the most improper time of the day for drinking it." This assertion should certainly have been reversed; as it tends to restore the appetite by resolving the concretions of the night, and promoting their early passage through the intestines. It is therefore a powerful antidote against pestilential diseases; contagion being soonest imbibed when the *primæ viæ* are charged with humours that tend by their acrimony to actuate the morbid miasma.

Dr. Buchan, whose professional abilities are so highly respected, adds that the most delicate people are generally among the greatest tea-drinkers; but this

this only proves that such people are often supported by the only sustenance their constitutions will bear, and therefore equally conducive to health and longevity. The greatest valetudinarians are also among the most convivial, yet physicians continue to extol the use of the grape; and the vintages are said to have been so much esteemed by the late celebrated Doctor Huxham, as to be prescribed for a patient whose debility originated in his being usually carried to bed in a state of intoxication. Such was the prescription that often subjected the doctor himself to a disease originating in the acid redundancy that irritates the nervous system, till by a violent effort the acrid particles are precipitated to the extremities; where they inflame the membranes through which the perspirable part ultimately evaporates, leaving the residue to concrete and form the obstructions that debilitate the parts affected. This disorder, which appears so inseparable from a state of opulence, had formerly the writer's consideration; but although Reviewers represented him to be well acquainted with the subject, and therefore wished to find his remarks enlarged at a future period—circumstances that will be further communicated to the world, have only admitted the cursory observations he has so often resumed, from an ardent desire to be useful in the sphere he is destined to occupy.

From the communication between the muscular coat of the stomach and the extreme vessels on the corporeal surface, their mutual affection is easily comprehended. Hence the general spasm so likely to be mitigated by a regimen that has the power

of promoting every necessary secretion, and must therefore be often favourable to those nervous complaints in which spastic flatus is described by a classical author, to be the crude fluid of unfinished perspiration. *Flatus nihil aliud est quam rude perspirabile**.—The mitigation adverted to is the more likely to be effected by a remedy which affords a grateful stimulus to the intestines, and by accelerating the vermicular motion, adds ventral solubility to other evacuations. It will be sufficient to add that there is in *tea* (whence its grateful volatility) an essence congenial with the animal spirits, and intended by Nature to supply the waste of the latter in the warmth of regions where perspiration is usually so extensive. Hence its being found the best restorative in convalescent prescription; more especially on account of its easy digestion, and having a peculiar tendency to tranquillize at the same time that it exhilarates the nervous system.†

The

* Sanctorius.

† It has been antecedently explained that mephitic vapour destroys the vital principle that can only be restored by salubrious respiration, while salted aliments are only hurtful in surcharging the blood with particles which tea is so effectually appropriated to resolve and discharge. Hence the thirst produced by such particles is more immediately assuaged by tea than by greater quantities of any other fluid; a circumstance that fully evinces the superiority contended for.—It need not be repeated that the former effects are rapid in their operation, the latter slow; which further discriminates their diversity, and the error of their being generally comprehended under the same disease.

The following extract will serve to corroborate what has been advanced.—“ As an argument against “ the common notion that the use of tea is injurious “ to the nervous system, there is a lady now living “ near Broadwater, in the County of Sussex, who “ never in the course of her life drank any thing but “ tea, even at her meals. She is now more than 90 “ years of age, and has constantly enjoyed an un- “ common share of health and spirits, being totally a “ stranger to nervous complaints. She has likewise “ a daughter residing with her, who follows her ex- “ ample so strictly, that she never travels without “ a bottle of tea, for fear of wanting it on a journey; “ and never goes to rest without tea after supper, “ though it be midnight. She is turned of 50, and “ remarkable for the strength of her nerves.” This will not be the case with those who drink the infusion so weak as not to possess a sufficient degree of the vegetable astriction. Nor is it any refutation of what has been advanced, that it does not agree with *every* constitution; because the same thing may be affirmed of every other aliment and prescription.

From the foregoing considerations it will appear that multiplying taxes on sugar, is one of the greatest evils the State can inflict on the majority of the people; whose health so essentially depends on the use of a diet that requires the dulcoration which also possesses many salubrious virtues. Such taxes, or whatever advances the price of either article, may one day be opposed by that part of the community who are most numerous and interested. The sex, how-

ever amiable, are not always passive. Let those by whom they are aggrieved beware of the tumult.*

S E A - B I S C U I T.

The acrimonious inclination of the animal humours in the human system, has rendered an absorbent diet so essentially necessary, that every country is found to subsist on some species of grain or farinaceous aliment. The defects to be considered in this part of the subject, do not therefore so much originate in the use of bad, as in the want of good bread; which may be deemed a further cause of sickness said to be more prevalent in the British, than in the fleets of any other nation. This will be obvious to any person who is told, that this article is usually baked in quantities sufficient to serve the largest armaments for several months; and that as the residue from ships paid off is kept in store to be expended by those that remain, or are subsequently put in commission—the same supply may be in continued use for as many years.

A large fleet which, at the time of writing these remarks, has been more than twelve months at Spithead, is represented to be still subsisting on the biscuit

* Around the Dome where oft, in sage detail,
Contending senators new griefs bewail;
Indignant, and with eloquence more loud,
Agnita's amazons tumultuous crowd:
And while the A&t explain'd the Chair expounds,
“Reduction”—“drawback”—o'er the House resounds!

cuit returned into store on the discharge of a former armament. Hence the complaints of officers and seamen respecting the depraved state of the aliment so essential to health. A very respectable author advises the flour of which it is made to be carried to sea, and boiled instead of being baked; but the human constitution is such as to require that *dry* portion of food that cannot be obtained from "puddings," or any other mode of humid cookery. It need scarcely be added that bread being generally considered as the staff or principal support of life, its depravity is the more evidently obnoxious; not to mention the loss which (like that of small beer) the nation sustains from the quantities of condemned biscuit thrown into the sea when in its worse state of corruption, and the cruize does not even then require it to be used.—Of this stale bread a seaman is allowed a pound for each day; but he would manifestly receive more nutrition from half the quantity of that which is recent. When the writer was a prisoner to France, he found (according to the custom of the French navy) soft bread baked for the ship's company every day.

'By an immediate change from the latter to the former, impressed landmen are not only previously disordered, but when their habits become so vitiated as most to require the diet adverted to, are unable to masticate the flinty preparation provided for them, on account of the soreness to which their gums are early liable. This, with other scorbutic affections, being occasioned by the corrosive state of the fluids, absorbent remedies (oranges and lemons cannot be esteemed such) are evidently conducive to the cure;

and

and as what conduces to cure will more certainly prevent disease, the utility of wholesome bread needs no other confirmation. It will, however, be evinced in the alleviation which (if not too new) it affords to the stomach, when disordered from an acescent cause: whence irregular livers should make it a principal part of their sustenance. The greatest eaters of bread are generally the stoutest people.

It may not here be improper to add the evident impropriety of committing to other officers the surveys for which the medical are alone professionally qualified. Hence, from an error in judgement, many a cask of putrid meat has been suffered to poison a ship's company that ought to have been otherwise expended; nor has it been always practicable to convince such officers (in the œconomy of their own table) that tainted fowls in a sea-pie were still unwholesome, however predominant the spicery that eventually served to multiply the evil. From the same mistaken ideas, putrid water has been esteemed sufficiently corrected by an additional quantity of the spirituous mixture; nor have there been wanting those whose palates were ultimately so depraved, as to prefer fetid grog to that which was sweet. It is not therefore to be wondered that maritime officers are generally so much more diseased than military; or that soldiers who have borne the fatigues of many grievous campaigns, retain the health and longevity that are seldom known to seamen.

It will be sufficient to conclude with repeating the little nourishment derived from bread in the condition that has been mentioned; and that with respect to aliments in general, those who are professionally converlant

conversant with their effects on the animal fluids, can best determine what degree of corruption is sufficient to justify condemnation.*

MARITIME ATMOSPHERE.

To the precedent causes of naval sickness may be subjoined the insalubrity of sea-air at a distance from land; being so much impregnated with saline particles that are sensibly corrosive to those who have not been accustomed to maritime inspiration. Hence the land-breezes proving so grateful even to mariners, and the sickly being so early enlivened by the vivifying powers of a more genial climate. This the writer has often experienced in his own instance; to whom approaches to shore have been so perceptible, that he had no occasion for other information. He cannot therefore coincide with those celebrated authors who conceive the maritime atmosphere to be every where salubrious. Here the same want of discrimination is obvious as in the general assertion respecting the antiscorbutic virtues of limes and other acid fruits. In warm climates, where the saline prevalence is always in such solution as not to vellicate the nervous membranes, sea-breezes will certainly be

more

* The writer who has been quoted in this department of the work, is the learned and ingenious Doctor Blane; physician in the late war to the fleet employed in the West Indies. The elegant observations since published by that gentleman on the sickness incident to warm climates, are highly deserving the attention of naval surgeons.

more wholesome than the marshy effluvia on shore; but it must evidently be otherwise, where the saline irritation occasions the obstructions and diseases that are only incident to northern regions. It may be added that the particles found so acrimonious where the scurvy is thence most predominant, are softened on shore in the combination of terrestrial vapour; like salted aliments that are meliorated in their commixture with vegetable and farinaceous substances.

The benefit which valetudinarians have been sometimes apprehended to derive from sea-voyages, is not to be attributed to the quality of the air, but to the particular stimulus communicated to the general system in that species of gestation; the appetite being further increased in the irritability of the saline absorption on the membranes of the stomach. Exercise being so essential to the cure of chronic diseases, many advantages may occur from a continued compression on the viscera and other parts of the body; tending to remove obstructions, and to restore the secretions conducive to health.

From antecedent observations, the writer conceives the drinking of sea-water, so much recommended by eminent authors, to be generally obnoxious, and to have frequently occasioned the disorders for which it is prescribed. Sea-bathing (now in such general practice) must also be often injurious to weakly constitutions, in the sudden recession of the blood from the surface to the interior system. On its return to the extremities is felt the glow which in delicate frames Nature finds it difficult to effectuate; the muscular powers being insufficient for the resistance

tance that is necessary. Hence obstructions in the glandular and lymphatic system that are productive of many chronical diseases.

While such a transiſion is a manifest violence which Nature combats with all the force of which she is capable, and in which she must eventually suffer when overpowered in the conflict—*warm* baths are gratefully adapted to every constitution. These more effectually deterge the channels of perspiration, and facilitate the operation of that and other salutary excretions. It is therefore that more diseases are alleviated by tepid than by cold immersion.—Relaxing the feet in warm water has always been esteemed serviceable in febrile and other temporary maladies; greater advantages might be derived from a more extensive ablution in the same element, where the *softest* water will generally be most favourable. But as both the quality and temperature of the bath, together with necessary auxiliaries, must be suited to the case of the patient; such remedies are only to be safely exhibited under professional direction.

Cold bathing is more especially a frequent cause of infantine mortality; to which may be added the growing custom of procuring remedies without professional advice. It is a solecism in human care, that health (the greatest of all blessings) is now sacrificed to frugality that is not equally regarded on less important occasions. Not only children are lulled to death by the impositions of quackery, but people in every period of life are progressively debilitated from the same delusion. The sanction of Government in such cases is one of the evils which the necessities of the State are not likely to abolish, nor the attention

that only regards the promulgated cures (and those often fictitious) of a few individuals, while there are thousands to whom the same remedy administers no relief. Hence the necessity for a longer continuance of regular prescription, but which is generally declined before there is time for such prescription to be serviceable. "Want of *perseverance*," says Dr. Buchan, "in the use of medicine is one reason why chronic disorders are so seldom cured." The effect of prescription is also often retarded by a mistaken idea that recovery will be accelerated by a sufficient quantity of what is held to be nutritious, but which in fact has a contrary tendency; as whatever the stomach cannot digest, only serves to weaken the body and strengthen the disease. The above-mentioned author further observes, that "many persons by too soon imagining themselves well, have lost their lives, or contracted other diseases of an obstinate nature." These quotations are the rather supplied, because they convey the sentiments of a favourite writer, whose domestic pages are so well known to the public.

To what has been advanced on the subject of sea-bathing, may be added the indiscriminate advice of plunging over the head—a practice which, if always necessary, is not always innocent; as in most people it occasions a temporary suffocation of the lungs: whence, in a weak state of that viscus, pulmonary and other disorders of the breast will eventually ensue. An unfavourable tension of the brain may likewise be induced from the same cause: whence also apoplectic and other consequent injuries. Wherever the breathing is intercepted, though but for a moment, Nature (as before observed) sustains a shock

shock that requires the resistance to which laborious respiration so generally supervenes.

R E V I E W.

Such, in preceding narration, are the evils which the writer has been sedulous to deprecate. A review at large of the publication that has been quoted, will further illustrate the subjects of detail.

The exordium is laudably exhibited, though perhaps too extended in the conclusion. Subsequent pursuits do not confirm the termination of future explorations in the southern hemisphere, or that the “bounds of the habitable world are now fixed.”

“What inquiry,” proceeds the pamphlet, “can be so useful as that which has for its object the saving the lives of men?” The writer’s continued efforts, under every difficulty of situation, will evince his coincidence in this opinion; but it is not, as before remarked, so easy a thing to serve the public as those who have never proved the experiment are wont to imagine. The annals of history have also shown the rewards of that service so precariously fated, that those who barely did their duty have been raised to the highest dignity and affluence; while, from a want of the same patronage, others who did *more*, have been suffered to continue unnoticed. At the same time it has been observed in parliamentary de-

bate, that there were "circumstances in the scales of
 " humanity and justice which ought to operate in
 " favour of particular individuals, *independent of any*
 " *general extension or national establishment.*"*

" In the most healthful climate was so small a
 " number of deaths, in such a number of men, ever
 " found within the same period of time ?" To this
 it may be answered, was there ever a ship that went
 to sea so favourably manned ? Seasoned mariners are
 ever less incident to sickness than others ; and those
 of good constitutions are enabled to sustain difficul-
 ties that overcome the weakly and diseased. Of the
 latter there appears to have been but one, and *that one*
 did not live to return. Had the same number of
 men been raised by Government in the usual pro-
 miscuous manner, not to mention the greater care
 that was necessarily extended, a very different state
 of the voyage might have appeared.

To this security in the selection of his crew, sev-
 eral other advantages were added by the judicious
 commander, that were also of more importance than
 the medicinal catalogue usually so much relied on.

On

* A peer of the realm lately animadverted on the happy abundance which every individual possessed, and by which they were so generally conciliated to burthens he was unwilling to alleviate. It will hereafter be shown that his lordship never made a worse speech ; and that although himself enabled to toast his mistress in the vintages of Burgundy, the bard who has not done less for his country, is not permitted to regale the MUSES with such exalted fare.—While he duly acknowledges the attention that last restored him to *temporary* pay, he is free to add he will return to knock where he apprehends he has a claim to be heard, and where the public attention may eventually concentrate.

On such an occasion, had the writer been obliged to relinquish either the “ fire-pots” or the medicine-chest ; he would have conceded to the latter’s being thrown overboard.—The manner in which this purification has been imitated, deludes the attention it is meant to exhibit : fires being usually no farther extended than in drying the decks (when washed) where there is the most circulation of air, while they were necessarily used by Capt. Cook for the correction of putrid vapour, and drying up humidity where the air is most confined. The hazard that may be objected to such an extension of the fires spoken of, evinces the superior utility of the invention that should have rewarded the inventor *cum otio et dignitate*.

It must likewise be remarked that the ship adverted to had no lower-deck, and though as large as a frigate, contained only a hundred and eighteen men ; a circumstance, the latter, far more favourable than if she had contained a greater number. Prisons that are otherwise healthy, become sickly when crowded ; and five hundred men in a seventy-four would be found preferable to six. Commodore Anson’s (with which a comparison is made) was a ship of *two* decks, between which a greater proportion of men were closely stowed : at the same time she is said to have been so deeply laden, as not to admit of opening her lower ports for the benefit of air. In this situation the habitations of the crew were soon charged with such deleterious effluvia as to occasion the sickness which, though denominated “ the scurvy,” was in reality a highly malignant and pestilential fever ; which neither “ sweet-wort,” nor any other medicinal

prescription

prescription could have prevented.—“ While the ‘ Centurion was yet at sea,’ continues the pamphlet, ‘ she could only muster *six* seamen in a watch ‘ capable of doing duty.’” It is submitted to seamen to judge how a ship of such magnitude could be navigated with so few.

Frequent debarkations would also contribute to the health of the ship where no material sickness is apprehended to have ever been prevalent. Hence the conceived exaggeration in the virtues ascribed to a ferment for which a previous partiality was entertained. This will appear the more likely, when it is considered that wherever sanguine expectations predominate, or a desire of realizing what is wished; circumstances in the least favourable are not only magnified, but often imagined where they have no existence. The efficacy of a preparation intended for future discussion, was meant to be early ascertained; and from the influence usual on such occasions, it is easy to conceive that the slightest ailments would be instantly regarded. These being often difficult to reduce to any particular malady, a disorder suitable to the experiment that was to be made might be readily apprehended.—However this may be, the remedy that would disorder most people on shore, is not known to have been ever introduced in the fleets where what are called scorbutic diseases so generally prevail. There has indeed been a composition that appeared a very inferior succedaneum for the grain by which it was distinguished, and which, like other expensive articles, proved of no general utility; requiring a stronger stomach than that of the *real* sick to digest it, while it tended to make others sick

sick that had before been well. A commissioned officer, among the latter, had his bowels locked up for nine days by two or three doses of it : an effect not peculiar to *malt*, nor likely to accelerate the recovery of those for whose use it was directed.

" How great must our surprize be to find the air of " the sea acquitted of all malignity, and that a voyage " round the world may be undertaken with less danger " to health than a common tour in Europe." These deductions are apprehended to be drawn from premises not sufficiently founded, and that the apostrophe is too highly coloured. The author might as well have argued, that because a particular family in a marshy residence is found to be healthy, the climate could not be deemed unfavourable ; or that longevity must be universal where a single inhabitant is found to attain the century of life.

The reference to the first voyage of the East-Indian Company is esteemed too remote for the purport of its appropriation ; and had the commander subsequently mentioned been living in the last war, he might have known that the mortality attributed to a disease in which he was probably mistaken, was exceeded in the *events* of modern times. The writer was going to have said in *history* ; but this would not have proved his assertion, except by a recurrence to naval entries. On the resumption of occasional armaments, streets are depopulated by warrants of authority. After short cruizes, fleets return with the surviving sick ; and at their next sailing, receive from the same resources a renewal of their complements. Here no historian records the bills of *morbid* deva-
tation,

tation, and the public only know that a hundred thousand seamen are voted for the current year, the next bringing up the rear in the total of “extraordinaries;” but different is the notice taken of a particular ship returning from a voyage of discovery.—Four ships at the early period above-mentioned are said to have lost a hundred men in the passage spoken of, and *since the publication of the pamphlet*, the royal service has manifested greater disaster. Hence it may be concluded that either the means recommended were not supplied, or that they proved ineffectual. In both cases, the boasted advantages are equally unfounded; and without such foundation, it is evident there is nothing to boast.

“ Though the malt in the third year was sensibly decayed, it was nevertheless found useful in the exhibition of a larger proportion.” It is difficult to account for the wholesomeness of any thing in a corrupted state, in whatever quantity it is exhibited.—The division of the ship’s company into three watches was a laudable arrangement; and it might be wished that the royal navy would copy the precept, were it not that most ships are so weakly manned, though possessing their full complements, that the usual number are found scarcely sufficient for the necessary purposes of navigation.—What the author relates in a subsequent paragraph, is equally essential to the ship’s welfare. The writer has formerly discussed the necessity of cleanliness; and how impossible it was for medicine to be efficacious to a patient who had not changed his linen from the time of his impressment, several weeks or perhaps several months before. Allowing, where it is convenient,

venient, *fresh* water for washing is also of material consequence; not only for the reason assigned, that “linen wet with brine never thoroughly dries,” but also on account of the absorption of the adhesive particles.

The paragraph respecting Doctor Hales’s ventilators, merits no other remark than that they are undeserving the applause bestowed on them; as they neither dry up the moisture that soon becomes putrid, nor sweeten those parts of a ship where the air is most corrupted, and because both these effects are produced by the air-pipes antecedently mentioned; being possessed of all the virtues of the fire-pots, and more adapted to every state of the weather.—What is called sour-kraut, if such as was sent to his Majesty’s ships in the last war, has also no claim to the encomiums bestowed upon it. The effluvia emitted on opening the casks in which it was contained, evidently manifested a putrid air and the unwholesomeness of the preparation from which it proceeded. Philosophical disquisitions, however ingenious, cannot annihilate the nerves of sensibility, or suppress the evidence of facts by deductions ultimately found to be vague and undeterminate.

“ Fires were the powerful instrument of purifying “the ship, without which *all the rest would have profited little.*” Here the pamphlet acknowledges the superiority of the element that was not only used in every other place, but conveyed in an iron pot to the bottom of the well; “into which”—continues the author—“the whole leakage runs, whether of the “ship itself, or of the casks of spoilt meats or cor-“rupted water. The mephitic vapours from this

" sink alone, have often been the cause of instantane-
 " neous death; yet this very place was rendered
 " sweet by fire let down to burn in it." It may
 here be added, that although such fires were only
 used twice a week where there were but few men,
 on an airy deck—they require to be oftener supplied,
 as well as more extensively, where five times the number
 are closely crowded in a less favourable situation.
That frequency and extension are more especially ne-
 cessary in a relaxed state of the atmosphere; when
 the decks should be seldom washed than at other
 seasons, and at all times (even in summer), fires
 should immediately follow. These should be made
 with a sufficient quantity of live coals, or dried wood
 that does not too early lose its flammability. The
 well and lowest parts of the ship should also be fre-
 quently purified in the manner described above, till
 a more continued process is adopted. Ablutions
 with vinegar may likewise be occasionally necessary,
 and the interior use of paint should as much as possi-
 ble be avoided.—On these particulars, and in what-
 ever relates to the health of the ship, it is the sur-
 geon's duty to recommend, and that of commanding
 officers to receive with civility the advice left to
 be regarded *ad libitum.**

" In despite of the best regulations and the best
 " provisions, there will always be among a numerous
 " crew some casualties more or less productive of
 " sickness;

* Midshipmen and others who reside in the lower parts of the ship would be oftener sickly, were their berths not daily purified by the continued heat of burning candles. This the writer has often experienced on breathing a purer air in his cabin, than in other parts of the cockpit where no candles were burnt.

" sickness; and unless there be an attentive medical assistant on board, many under the wisest commander will perish that otherwise might have been saved." The public will be sensible that such assistants, however they may casually abound, are not to be expected where the rewards of service are only calculated to attach those whose natural habits include every disqualification, and of whom it can seldom be said what Dryden says of the female paraphraser of one of Ovid's epistles—that if the lady (as asserted) did not understand latin, she had given those occasion to be ashamed who did. In the consideration of every circumstance it will evidently appear, that the welfare of his Majesty's seamen, with respect to professional attention, is founded on contingency, and that there are no volunteers in the service but such as ought not to be employed.

The defect so manifestly injurious to service will be the more regretted, when it is considered that of the officers adverted to there is only one to each ship, and that the extension of more liberal rewards would therefore be a very inconsiderable addition to charges they would eventually tend to diminish. The necessity for such rewards will further appear in the recollection that without good *mates*, the surgeon will prescribe in vain; and that such assistants are to be attached by encouragements in which they expect to be subsequently interested.—Though surgeons and masters are generally conceived to be on the same establishment, such is the real difference, that the latter, besides an exclusive share of prize-money with commissioned officers, do not only sooner arrive at half-pay, but to whom that pay is a shilling a day

more than is allowed to surgeons; the pensions of whose widows are in equal disproportion. Other arrangements are no less unfavourable to professional respectability, and inimical to those who have the first claim to the public protection. Were it not for the injury which the nation might eventually sustain, such a detail of circumstances might be exhibited, as would stay the departure of the largest fleet that ever assembled for the defence of the kingdom.*

“ However slow the Lords of the Admiralty may be in redressing the grievances of the navy surgeons, one day or other they must pay attention to them; otherwise the service must become odious, and men of ability scorn to be employed in it.”† Such was the criticism on a publication for which the writer received the thanks of the Board where the noble Lord presided to whose complaint, when commander in chief of the British fleet in the last war, the Court of Examiners were said to have replied, that THE SERVICE DID NOT GIVE SUFFICIENT ENCOURAGEMENT FOR OBTAINING MORE ELEGIBLE OFFICERS!!! The author of a pamphlet inscribed to the same quarter, added his lordship’s declaring in the National Assembly, that he would not intrust his *stable*

* “ The medical department in the navy, although it speaks but little in favour of those who planned it, is certainly an excellent proof of the patience of their posterity, who have so long suffered it to remain unimproved. *It was bad at its first institution, and has been gradually growing worse.*”—MONTHLY REVIEW.

ftables to the care of those who were intrusted with the lives of a hundred thousand of his Majesty's subjects, and eventually the preservation of the empire.

To redress the evil, stricter examinations have alone been enjoined which, were they more certainly decisive, can answer no effectual purpose; since, as Reviewers have observed, Examiners can only pass those who come before them, and as necessary qualifications do not merely imply the professional knowledge which the intelligent part of mankind conceive formal disquisitions so insufficient to determine. "I do not know any situation," says the editor of Sailors Letters, "where fortune and reputation are so unfairly staked as at a public examination. It cannot be called a true or just trial of genius and ability, when impudence and ignorance succeed while modesty and capacity fail."

From what has been observed, it will be evident that unless necessary rewards are sufficiently enlarged, the acquisition of eligible officers must ever be adventitious; while a general extension of smaller compensations could only tend to multiply others. From the necessity of ultimate independence, a general superannuation of five shillings *per diem*, on disability for further service, might be found the most effectual attraction. The amount of this final remuneration is at present equally discreditable with the terms on which it is established. It is in this allowance only, that surgeons are on the same footing with masters; whose half-pay is *superior* to it, and therefore found to attach them to service when no longer qualified.—To the above should be

added the rank allowed to a service now generally esteemed less essential to the defence of the kingdom. Reviewers have on this occasion naturally exclaimed with the writer, " That surgeons in the army should be commissioned officers, and in the navy only warrant, is indeed a solecism." It is also observed by the distinguished author on the Wealth of Nations, that the rewards of those to whom the care of health is committed, should be such as may give them that rank in society which so important a trust requires. Was this considered in the parliamentary establishments which the writer's perseverance had a tendency to accelerate in favour of widows in general?—If the trust represented above be so important where individual welfare is alone concerned, is it not more so where that of the community at large is interested? Ought not then every respectability to be given to so distinguished a charge? Let a deliberate retrospect determine whether this is the case; or whether on a late occasion, when eligible officers refused to serve, lopping a few of the branches could improve the ground that afforded no genial moisture to the root of the tree.*

To

* A late institution in favour of commissioned marines merits every applause, as it affords the power of rewarding particular claims that cannot be otherwise compensated. It is submitted to Government whether a similar adoption should be extended to a corps whose services are not permitted to be in continuance, and who may not therefore arrive at superannuation by fifteen years employment in the course of a century. They are the more deserving of attention, when the nature of the service is considered that subjects them to every contagious infection, and so unfavourably accelerates the declension of life.—The pay of retirement should be made respectable.

To the discouragements complained of, a letter from a veteran commander of high descent attributes
 "THE LOSS OF SEVERAL OF HIS MAJESTY'S SHIPS
 "IN THE LAST WAR." May it cease to be told that in a country where the annual revenue is seventeen millions, a few thousands were refused to the most essential purpose. The writer has formerly observed his having no particular claim to eloquence; yet were he circumstanced to command the audience of Parliament, he would devote the latest hour of night to plead the cause he has returned to vindicate. It is a subject that would have rouzed the attention of her senates when Rome was mistress of the world, and to which it is still hoped a British Legislature will be ultimately attentive. To the august assemblies of which it is composed, as well as various departments of Government, the writer has frequently addressed himself; and however unsuccessful, he feels a conscious pleasure in returning to the charge. Though his labours may still be in vain, he trusts he will continue to meet the approbation which the subsequent paragraphs will show to be so generally consentaneous, and for which he takes this public opportunity of acknowledging his obligations.

"Mr. Renwick has favoured the public with a variety of matter on medical subjects, and thrown out several useful hints for the better regulation and treatment of his Majesty's seamen, which we doubt not will one day be duly attended to by the Commissioners of the Admiralty.—There is a class of men who are peculiarly indebted to the author: we mean *the surgeons of the navy*. The inadequateness

" quateness of the rewards which they receive for
 " their services, seems to have first suggested the
 " publication of these letters. The consequence of
 " their grievances is, that surgeons of ability take the
 " first opportunity of getting into a line where they
 " can have a better recompence for their labour. If
 " the preservation of the health of his Majesty's
 " seamen be an object worthy the attention of Go-
 " vernment, the encouragements of those on whom
 " that health depends, must also be intitled to a share
 " of their notice.—*Mr. Renwick has a just claim*
 " *to the gratitude and respect, not only of medical gen-*
 " *tlemen, but of the British nation at large.*"

" The author of these letters writes intelligently on
 " the subject of his profession. He appears to be a
 " man of a feeling and benevolent heart; equally foli-
 " citous for the good of the service, and the advan-
 " tages of those intrusted with the care of the men.
 " His fifth letter, relative to the manning of the navy,
 " is of the last importance to the health of the ship's
 " company, and the subjoined remarks are truly wor-
 " thy of attention."

" These sheets do credit to the head and heart of
 " the writer; and although they may not be re-
 " garded by those men of rank and power to whom
 " they are particularly addressed, they cannot fail of
 " awakening public attention to an important subject,
 " and may perhaps on a future day incline some
 " member of the Legislature to use his influence that,
 " the evil may be redressed."

" Mr. Renwick warmly espouses the interests of
 " his brethren the navy surgeons; who labour under
 " many disadvantages which seem not only to bear
 " hard upon them, but to be eventually injurious to
 " the public. He is no doubt a good surgeon, and
 " a man of sense and observation; and he seems to be
 " wholly actuated by a laudable zeal for the cause in
 " which he is an earnest, and we hope will prove a
 " successful advocate.—The story of Eugenius is
 " highly pathetic and interesting."

" Mr. Renwick's pamphlet we can recommend
 " to the attention of the public. The animated
 " language, his knowledge of the subject, and the
 " zeal he displays to serve the community of which
 " he is a member, reflect honour on his head and
 " heart. But what are the efforts of individual phi-
 " lanthropy, if they are not seconded by men who
 " have it in their power to redress the grievances
 " in question?—It is not without laughter that we
 " mention a circumstance which he relates, and
 " which proves the wretched shifts navy surgeons are
 " put to after being dismissed from service. One of
 " them who began practice in the country wrote over
 " his door, ALEXANDER MAC SAGE, MAN-MID-
 " WIFE FROM THE ROYAL NAVY. *Rifum te-*
"neatis."

" Every humane reader must wish success to Mr.
 " Renwick's exertions in favour of seamen, navy sur-
 " geons, and surgeons' widows. The zealous author
 " here points out more fully than in his former publi-
 " cations, the medical defects that are *truly disgrace-*

"ful to this nation.—The subject fully justifies the laudable zeal with which Mr. Renwick presses his solicitations; and we hope he will prove a successful advocate for that body of men who are so essentially necessary to the defence of the kingdom."

"Mr. Renwick, whose labours we have before had occasion to praise, continues very commendably to plead the cause of his brother surgeons; whose services and scantiness of pay certainly merit the attention of Government."

*"We have frequently met our author on the same occasion, and had an opportunity of bearing a cheerful testimony to his good intentions. An addition to the rank of navy surgeons, as well as a more adequate provision for those who are dismissed from the service, would be *highly advantageous to the public*; by making that department more generally respectable, so as to attract more able men of the profession. For as Mr. Renwick observes, the abilities of workmen (of whatever description in the community) are generally in proportion to the wages assigned them.—The language of the Address is elegant; while the sentiments of the writer are liberal and humane."*

"We took occasion to recommend Mr. Renwick's Second Address to Parliament, as breathing sentiments of liberality and humanity towards a class of men whose services are of the first importance to this nation. It gives us pleasure to see him perfectly in the same laudable design, without shrinking "from

" from the difficulties which must naturally attend
 " his benevolent exertions. The subject of the Ad-
 " dress is important ; and whether the author be suc-
 " cessful or not, still he is intitled to the thanks of
 " the navy in particular, as well as the country at
 " large."

Monthly, Critical, and other Literary Reviewers.

C O N C L U S I O N.

The circumstances discussed in the preceding sheets have been the longer dwelt on, because they have equally tended to enlarge the national debt, and to occasion the depopulation so prevalent in the country, however extensive may be the intercourse of commercial towns. Hence the greater burthens from which, in the instances of various history, there is always so much to fear, and which in every state should be the primary object of political attention. *Individuals* may become rich in the extension of commerce (the continuance of which is always precarious), but the community at large suffer in the declension of agriculture, or when from any other cause the price of grain is increased. Represented emigrations, from a difficulty of procuring the necessaries of life, are seriously alarming ; if it be true, as asserted by politicians, that the strength of a kingdom consists in the number of its inhabitants. Population is further diminished from the great disproportion between the

sexes, and increasing interdictions to matrimonial connection*.

The subsequent paragraph from the public prints, evincing the waste by which the price of bread must eventually rise, is a manifest discredit to the nation, and merits the earliest attention of Government.— “There was yesterday an interesting dispute at Guildhall between the meal-weighers and the bakers, concerning the price of wheat delivered into the lord-mayor and aldermen to fix the price of bread by. The bakers asserted that the meal-weighers do not deliver in the best price: the others admitted that they did not, because the best wheat was sold to the distillers to draw *spirits* from, and not for making of *bread*; but they affirmed that they always delivered in the highest price the bakers gave for what was used for the latter purpose.”—How much is it to be regretted that an enlightened empire should suffer such a prostitution of the most essential part of aliment, or that the best grain should be appropriated to destroy instead of nourishing the community.

The waste adverted to is the more reprehensible, because a Committee of Council have lately represented to the Throne, that Great Britain is unable to produce corn sufficient for its own consumption!—Such a representation would be of the most alarming nature,

* “ Came into Greenock in distress, the Fortune, bound for North Carolina; having on board 350 passengers, men, women, and children. The crowded and comfortless situation of these emigrants excited compassion; and to see such numbers leaving their native country at this season of the year, to seek an asylum in a foreign land, is distressing to every feeling mind.”—*St. James's Chronicle for October, 1791.*

ture, did it appear to be duly founded. But the extent of territory being the same, and the inhabitants not more numerous than when consumption was less than the produce, the deficiency must evidently originate in other causes than the inability to which it is ascribed. One of these causes has just been mentioned: another is the diminution of tillage. The latter has been generally assigned to the claims of the church; but as these have been of long existence, a more recent cause is manifestly to be sought for. This will be found in the preference which a scarcity of rural labourers and the increased demand for horses have transferred to pasture.—The proposed encouragement for the growth of *hemp* may prove a further interception to that of corn, and eventually increase the use of the former article where it is already too extensive.

The foreign grain proposed to be substituted, besides being originally inferior to British, is further less eligible from the injury it receives in transportation. Added to these considerations is the uncertainty of supply; nor can it escape recollection that the mother-country is now avowed to be in such declension, as to become dependent on her provincial-offspring for her future sustenance. The worst consequences may also ensue from popular violence, should the public granaries be insufficient to answer their intention.

All nations that have to import their *bread*, are more especially subject to temporary famine; and whatever may be the salutary effect of a present plenitude, the greatest calamities will ever be liable to supervene from procrastinated replenishment. Hence

the committee have justly observed that a mislaken speculation in the trade of corn may produce “dearth” (*to which a high price is nearly equivalent*) together with “popular commotion”—Let not therefore, as in hostile periods, the boast of to-day render the fate of to-morrow more inglorious. Trade, like war, is a game of chance in which Fortune often disappoints, and frequently ruins her votaries: land is substantial property, the cultivation of which will generally insure a certain and continued support. One is fluctuating, capricious, and volatile; the other stationary, stable, and permanent.—Countries that sacrifice agriculture to commerce, may for a time appear in greater splendour; but, like the corruscations of northern luminaries, *that* splendour has only a temporary endurance.

Leaving the subject to be further resumed in the prevalence of subsequent occasion, it will be sufficient to close the preceding discussions with repeating, that the health of mariners in ships of war can only be preserved in the means that have been recommended, and that all other expedients will be found fallacious and delusive.

A P P E N D I X:

CONTAINING CURSORY REMARKS ON
VARIOUS SUBJECTS.

F E V E R S.

OF the various maladies fatal to human nature, the continual fever is found to be most prevalent. In subjects of rigid stamina, it rages the ardent-inflammatory; in slender habits, where the oscillation of the fibres is too weak to produce any violent exertion, it appears what is usually denominated the slow-nervous; and where the humours are depraved, is more or less putrid and malign. These several characteristics are sometimes so blended, as to render it difficult to discriminate to which class the malady belongs.

Thus much known, the necessary difference in prescription is obvious; and the same remedies will be generally proper that are calculated to diminish the spasm of the extreme vessels, by promoting the secretions favourable to every disease.

Emetics, in the *first* of the above fevers, can only be safely exhibited before the fibres are in too tense a state. They will then be the more improper where bleeding is not premised: an operation that requires to be cautiously repeated, even in the prevalence of local inflammation. For although such affections

are

are induced by a stimulus which diminishing the circulation tends to alleviate—if the relaxed veins are rendered too weak to resist the force of the subsequent influx, irritation is again excited from the plenitude consequent to that imbecillity. This should be more particularly regarded in inflammations of the eyes: a disorder in which the writer has suffered from services that might ultimately claim the pension which it is only in the power of Majesty or Parliament to supply.

The preceding considerations evince the error of Doctor Huxham, who advises people of lax fibres to reduce their corpulence by a repeated use of the lancet: a prescription he could not have so indiscriminately recommended, had he considered that by increasing the muscular laxity, the diameter of the vessels is enlarged, and thence capacitated to retain a greater quantity of the circulating fluids. Those who adopt such a remedy are therefore generally rendered more corpulent, till diseased by leucophlegmatic, or some other chronic indisposition.—Consentaneous are the remedies in general prescription for complaints that oftener proceed from a vitiated state of the stomach, than from a defluxion on the lungs; and which being essentially different in their circumstances, require a different process of cure. There are no diseases where quackery does more mischief than in those of the ventricle; to which maritime officers are more especially obnoxious.

It should ever be remembered that medicine, like aliment, can only be efficacious as it is accommodated to the organs of digestion; the nervous system being generally affected by whatever disorders the *prima via:*

vix: whence, in febrile sickness, the spastic stricture with which, unless sooner assuaged, the animal functions continue to struggle till the extinction of the *vis viva*—or till the fibres having lost their elastic powers, constriction ceases, and languor and debility succeed. Here, though Nature is generally conceived to have vanquished the disease, it is evident that the disease has been the victor; Nature being no longer able to make the resistance that occasioned the combat: when, if the latter is not properly supported, the patient, instead of expiring under the rage of delirium, dies comatose.

As Nature seems to indicate the termination of nervous fevers (which cannot bear any treatment that weakens the system) by a critical discharge of the morbid matter through the urinary channels, those diaphoretics must be most favourable that have also a diuretic influence. In dry habits and other particular constitutions, it is often difficult to relax the cutaneous pores; without which it is impracticable to obtain the perspiration that will be more easily effected in the promotion of other secretions.

In the investigation of *putrid* fevers, there is often much delusion. Whatever raises a tumult in the circulating fluids, may surcharge the skin with excrementitious humours; but this does not substantiate the malady to which they are ascribed. If that commotion be excited in a vigorous and plethoric habit, more especially where necessary evacuations are not premised—there will be a plenitude of the brain that may eventually terminate in early mortality, without the malignant affection to which it has been attributed.

Diseases are imperfectly marked in their nominal distinction, unless their various *genera* be also duly ascertained. This is more essentially requisite with regard to the sex whom Nature has wove in materials of finer contexture (whence their more amiable dispositions), and whose disorders—often originating in mental sensibility—require to be treated with such peculiar discrimination.

Febrile sickness in young children being mostly occasioned by indigestion (whence the irritability productive of convulsions), the best remedies are gentle laxatives, together with such as tend to promote perspiration. Exsudations from the head and ears being the discharge of humours obnoxious to health, their suppression evidently tends, by an unfavourable translation of the morbid particles, to occasion gripping, fevers, and the convulsive struggles by which Nature again expels the offending cause, or sinks under the efforts to effect that expulsion.

The writer takes this opportunity to express his satisfaction in finding the long celebrated compositions he formerly reprobated, omitted in the new dispensatory of the London college, together with an ointment that was also represented to have sent thousands of seamen to the pensioner's chest. The rosin in the adopted unguent of that name being in no greater proportion than the wax, and the last being the most salutary ingredient—it is respectfully submitted to the College whether it should not rather have had the latter denomination; more especially as it would still be a better medicine in a reduction of the former to half the quantity. Irritating applications are seldom favourable to healing; and the adhesive materials

rials in the composition for which the above is substituted, was long a disgrace to surgery, as the now excluded alexipharmics were to the province of physic. It is to be wished, for the welfare of the human species, that such compositions may never be restored; but some of the new being a resumption of the former titles, evinces the circuitous revolution of every thing that is sublunary, and that a future period may again revive what is now exploded.—In the choice of medical terms, the writer confesses his estimation for brevity. It is therefore that he still prefers the appellation of *ceratum epuloticum* to that of *ceratum lapidis calaminaris*; and those who have formed their pronunciation in the northern part of the kingdom, find it easier to say *emplastrum mercuriale*, than (as it is now titled) *emplastrum lythargyri cum hydrargyro*.

What is now denominated *liquor volatilis cornu cervi*, might perhaps be oftener termed *urina distillata*; many chymists being said to obtain this “ volatile liquor” from stale collections, in which the supplies *ex virginibus et aliis* are indiscriminately blended. It might be worth while to inquire, whether various diseases may not be communicated in the exhibition of such “ cordial drops:” more especially where the stills are charged from the repositories of St. James’s Place.

With respect to the change from “ spirit” to “ tincture” of lavender, there is certainly as much occasion for the latter appellation in that as in any other composition to which it is applied. But as it strictly means the colour or dye which the infused ingredients give to the menstruum, neither of which are lavender—it might be said to be rather the tincture of

red saunders, from which its colour is extracted. The term originates in *tingere*, to stain or tinge: whence Horace says to make a man drunk, is *tingere poculis*; explained in the tincture or colour of the face.

These casual remarks are not meant to deprecate the labours that are so highly esteemed. Among other judicious curtailments are those of the syrups and waters; of which the most eligible are retained, and the elegance of many other compositions has a distinguished claim to the public approbation.

It remains to be added that elixir of vitriol (which the College formerly recommended to Government as a remedy against the scurvy) being excluded the present dispensatory, appears to be now deemed of no utility. Ought not therefore its prescription where it is still supplied at the expence of the State to be discontinued, together with the mortars represented to be made of poisonous metal?

S Y P H I L I S.

Various are the opinions entertained by writers of equal eminence, respecting the treatment of this infectious malady; originating in promiscuous intercourse, and the want of subsequent purification.

Although virulent gonorrhœas may often be removed without the use of mercury, seamen seldom apply early enough to obtain that advantage. Those who serve in guardships, are represented to be the prey of every itinerant impostor; and application is said to be seldom made to the surgeon of the ship before

before life is endangered by aggravated symptoms. It is added that two or three guineas are often expended in the efforts to save fifteen shillings. Hence the difficulty of cures to which every other circumstance is so unfavourable, and which even on shore the most skilful practitioners esteem to require so much time and continued prescription*.

Where mercury is requisite, the mildest preparation appears to be most eligible; notwithstanding the assertions of Sir John Pringle and other distinguished writers in favour of the strongest. Its necessary retention requires it to be exhibited in such doses as are best appropriated to the state of the intestines; and it should not be given immediately after purgation, or during the peristaltic impulse in which the viscera are easily irritated.

Particular habits require to be prepared for its influence by a previous correction of the humours, and diminishing the force of the circulation.—From its tendency to relax the glands and increase the blood's solution, a long continuance of mercurial prescription is more especially obnoxious to scorbutic temperaments; in which syphilitic contagion is therefore most difficult to eradicate.

In every stage of the disease, it is found most generally efficacious to induce a soreness of the gums, without the salivary discharge by which the system was

* " A virulent gonorrhœa can seldom be cured speedily and effectually at the same time. The patient ought therefore not to expect, nor the physician to promise it. It will often continue for two or three months, and sometimes for *five or six*, even where the treatment has been very proper."—DR. BUCHAN.

was formerly so much weakened. The foregoing purpose in favourable situations, may generally be obtained by small doses of the preparation recommended, varied as circumstances may indicate; and which are most advantageously taken at bed-time, when warmth and perspiration render them least liable to operate on the bowels.—As the progress of the partial salivation sometimes necessary is congenial with that of the small-pox and other febrile eruptions, it will be most favourably induced in the prevention of costiveness; to which, in plethoric habits, venesection may occasionally be a requisite addition.

Mercurial *inunction*, however accommodated to hospitals on shore, is less convenient in maritime prescription; it being necessary that the friction should be in the warmth which fire is wanting to supply. The introduction of the mercurial particles also depends on the assiduity of the patient; which renders it difficult to ascertain the quantity necessary to be administered. Such a practice is the more ineligible where every seaman will apprehend he can himself appropriate such a cure without going to the cockpit. Instances of this are frequently apparent, and in which the fraud on the surgeon is the least eventual evil.

Obstructions of the urethra are frequent complaints in the navy; which, however variously characterized, are generally owing to an abrasion of the natural mucus from venereal and other habitual depravities: whence, in the saline irritation of urinal discharges, the spastic constriction more especially prevalent in a morbid state of the prostate gland.

SUSPENDED

SUSPENDED ANIMATION.

In most casualties, but more especially in drowning (where the first intention should be to restore the vital heat), the salutary powers of a warm bath are superior to those of every other application. It is therefore to be regretted that such an expedient is not prescribed in the rules of the Humane Society, till after other means have proved abortive that serve to render it too late in its ultimate adoption.

Bleeding, however authorised by great names, should seldom, if ever, precede resuscitation. In strangulations and other cases where the blood-vessels of the brain are surcharged, and where there is a greater retention of animal warmth, venesection is manifestly indicated. It will be the more necessary in a livid suffusion of the countenance, occasioned by the plenitude that has been mentioned.

It is ever necessary to guard against a too powerful irritation of the olfactory nerves at the instant in which they become susceptible; the respiration of those in health being in such cases more or less intercepted. The same caution is requisite in not resisting the first efforts of Nature by too powerful inflation; more especially if the aerial fluid has a tendency to chill the natural warmth in the pulmonary tubes.

The smoke of tobacco directed by Dr. Cullen to be blown into the mouth and nostrils on the return of animation, is evidently calculated to renew its suspension; by suffocating the lungs, or producing the sickness unfavourable to recovery. Other recommendations

dations by this celebrated writer are conceived to be no less erroneous.

Of the various suppositions of Dr. Fothergil to ascertain the cause of death in the act of drowning, that event is certainly produced by the discontinuance of respiration. At the instant of submersion, the lungs collapse; and after some resistance from their irritability, all the moving powers become suspended. Life however, from the latent principle which the doctor so powerfully elucidates, may continue while there is any degree of internal heat: whence the preference of a remedy that so immediately comforts the bowels, and animates with its grateful influence the whole nervous system.

It has been observed by Dr. Lind, that in ships of war sudden deaths are not unfrequent; occasioned by intoxication, and by the vapour antecedently diffused. The latter cause is evidently most calamitous; as the ship's company at large are more or less injured from their general proximity to the source of the evil. Though all are not *suffocated*, it has been shown that all are progressively poisoned.*

Convulsions,

* Medical writers have always been puzzled to account for the difference between what are called land and sea scurvies: it would have been equally difficult to ascertain how they came to give the same name to such different diseases, had they not ascribed both to the same cause—that of salted aliments. They therefore continue to apprehend that having the same origin, however otherwise dissimilar, they must necessarily be of the same genus; whence the delusion that continues to prevail. For admitting the effects attributed to aesculent prescription, they only serve to combat the consequences without preventing (what has been shown to be practicable) the occasion of the malady.

Convulsions, from irritation in the origin of the nerves, are often consequent to habits of ebriety: whence

malady. The same consequences must therefore be always prevalent; and the remedy resembles that of sprinkling a room, containing any putrid substance, with vinegar and other antidotes, instead of removing the offensive mias from which the poison proceeds.

The diet to which maritime mortality is attributed, only tends to surcharge the blood with particles which the daily use of tea effectually resolves; while putrid vapour destroys the vital principle which no prescription can restore, and eventually debilitates the functions in the manner described in the former part of the work. The nature and cause of that debility may be further conceived from the congenial effect of putrid air on a burning candle; which deadens the flame in proportion to the degree of putridity; and when more corrupted extinguishes it altogether. Hence also the reason that the animal spirits are every where more or less influenced according to the state of the weather, or the climate of the country in which respiration is performed.

The extinguishing cause mentioned above being equally destructive to human life, evinces the inflammable essence by which the animal powers are actuated, and which is derived from the aerial particles that every where animate and pervade creation at large.

Particular ships that were sickly at sea, are said to have become healthy on their arrival in port, from a supply of vegetable acids. These, in sultry seasons and climates, are doubtless salutary; but recovery in every ship in harbour, more immediately proceeds from their becoming stationary: when the contents of the bilge being no longer in motion, the effects occasioned by that motion are also in discontinuance.—During a serene state of the weather, there is usually less febrile sickness at sea than at other periods. Fevers are also generally less prevalent in ships that are so constructed, as to be least favourable to the bilge fluctuation. Those with flat floors have generally more agitation than others, and are therefore more likely to be diseased. It is trusted that these considerations will be duly regarded by the Society lately instituted for maritime improvements.

whence their imitation among other disorders that frequently elude the greatest professional skill, and which a humane surgeon will always be slow to pronounce fictitious. Hence the writer's having never adopted the severities so frequent in detail. At the same time it may often be requisite to combat one deception with another, and to discourage imposition by pretending to know more than can always be certainly ascertained.

"A stoppage of the circulation" is detailed among other complaints of maritime indisposition. This may at any time be literally the case, while ships continue in the state that has been represented; but it is also often nothing more than a difficulty of respiration from stomachic flatulence, resulting from the same cause, together with irregularities by which fevers and other disorders are the sooner induced.

In retiring, for the present, from scenes that have so often excited the writer's concern—he cannot forbear to sympathize with the sex who, in every sphere and condition, have a more particular claim to attention. Many of the crew in guardships having pregnant wives who, at those periods for which every one must naturally feel, are unable to obtain the conveniences that are necessary; it is again submitted to Government, whether an empty ward at each of the royal hospitals, might not in time of peace be conveniently appropriated to their accommodation. Might they not also be admitted in every other period of sickness?—The writer is the more solicitous on this occasion, as there are among them many of respectable demeanour; who may have once been acquainted with more favourable situations.

MENTAL DERANGEMENT.

Muscular motion and the intellectual functions are mutually determined by what are called animal spirits, generated in the brain, and thence distributed to every part of the human fabric. When this distribution is irregular or perturbed, the consequences are obvious: the influx being a portion of that electric matter with which all nature is charged, and which when disordered is the occasion of storms and tempests in the general atmosphere of creation.

In a retrospect to the cure, it is to be regretted that the powers of *music* are not always combined with those of the *materia media*. Sounds that are grateful to the ear, would equally tend to alleviate the tension of the brain, and alienate the mind from the influence of imaginary terror.

Of *medicinal* prescriptions, those are evidently most favourable that facilitate the necessary secretions without inflating the vascular system, or raising a tumult in the circulating fluids. Hence the disapprobation of drastic compositions indiscriminately recommended by the greatest authorities. They are more particularly unfavourable in the exacerbations denominated mania; and this is the rather observed, because they have been seen prescribed where ebriety and other excesses occasioned the deliria which such violent medicines, by further accelerating the circulation, manifestly tended to increase.

Prescriptions that debilitate the constitution, are the more ineligible from their tendency to induce permanent melancholy. The most efficacious must

be those which have an immediate influence on the acrid particles that irritate the intellectual membranes. The *nostrils* are therefore the properest channel for conveying remedies to the brain, where the disordered nerves have their primary origin.

It is in the last-mentioned affection that the powers of melody will be most favourable. In this, they should be sonorous and animated; in the former, soft and plaintive. Solitude and restraint are here also necessary; the other requires liberty and cheerful intercourse. Hence Bedlam, in London, is only adapted for maniacs: who ought to be transferred to a more appropriated residence, as soon as they become atrabilious.—Where the malady originates in a depravation of the nervous fluid, a cure will be the more difficult to effectuate.

Relapse, in either of the above maladies, is only to be prevented in a continued preclusion of the cause. This is found impracticable by those who can only be solaced in the *oblivion of sorrow*; and who, though recovered from maniaism, will always be melancholy. Hence events ascribed to national politics, are often the casual result of individual despondence.

These affections were treated more at large during the indisposition which time so happily removed, and sent to Mr. Kearsley in Fleet-street for publication; but the Royal recovery being announced before they went to press, the sheets were withdrawn that were now too late for their intended appropriation, and with which the author did not wish to revive in his Majesty's breast the particular circumstances that were so generally delineated. He was the more interested in the subject, from the continuance of difficulties

culties with which he was fated to struggle, and his professional knowledge of the progressive effect of increasing disquietude.

TERRENE DEPRAVITY.

A necessary attention to the requisites of life in some, and various inducements in others, have conciliated mankind to every situation subservient to such attainments and gratification. But were it duly considered that without health all other acquisitions are of little avail, those who can choose would not continue in places of unwholesome residence, and others would be more attentive to salutary improvements where they are obliged to be stationary. Alleviation may be found in the powers of prescription, but the writer has frequently had occasion to observe that diseases are more easily prevented than cured. *That* prevention is the more eligible, because the constitution escapes the depredations that are often extended by unskilful treatment, and from which the most judicious cures do not always effectuate a perfect recovery.

Preceding pages have shown the necessity for salubrious air in respiration, and the injurious tendency of a depraved state of that element. It is therefore hat, without the improvements above-mentioned, low and marshy countries have always been found more or less unhealthy. Such being the soil where these remarks are fabricated, the ground-floors of habitable buildings should not be lower than the street in which they are erected; being otherwise often flooded

flooded with stagnant water, or having it near their surface: whence the diffusion of noxious vapours that contaminate the animal humours, and engender various disorders.

A want of declivity in most of the public conduits, and the causeways not being sloped by a central elevation, are further productive of morbid contagion. From these defects, the putrid contents of the former are only evacuated by exhalation; while the showers that should wash the latter as they run into the kennels, are mostly retained where the pavements are worn, together with the mud that renders raking so often necessary.—Were the footways paved with larger stones, reparations would be seldom requisite: as, besides their being more durable, there would also be fewer crevices for the admission of fluids that occasion their decay. Such pavements would therefore be ultimately least expensive.

Besides the *lateral* ascent spoken of above, every street should lengthen in a gradual rise till the middle, with an equal descent to its other extremity. This would promote the circulation which in dry weather might be further accelerated by water ejected from a pump, with reverberated spouts, placed at the eminence of each channel, and worked every morning by people employed for that purpose.

Of such importance was the current of water and filth esteemed by the ancient Romans, that more attention is said to have been paid to the common gutters, than to any other part of the public work. That republican community would neither have been indifferent to the corrupted state of cornu-ro, nor to the putrid ponds that so sensibly vitiate the surrounding

surrounding atmosphere. This effect will be evident to whoever considers that the clouds, in which the air so essential to life is contained, are formed of humid particles exhaled from the watery parts of the earth, and which will therefore constitute a climate of homogeneous quality. Hence the pectoral diseases represented to be most relieved on retiring to what is called the other side of the hill ; where the soil being more favourable, the climate, or atmosphere composed of exhalations from that soil, must also be more sanative.—The want of necessary out-lets, in places of abode, likewise tends to increase the mortality that would be more regarded, were it not for the popular influx with every returning armament. It is by such replenishments that in commercial towns, where the last-mentioned defect has a similar influence, depopulation continues to be prevented.

Cleanliness in the public ways is ever highly conducive to the health of inhabitants. Preferred by those not in trade, is therefore the square where residence must nevertheless be very unwholesome ; being contiguous to a large fetid lake, and the inundations complained of, or so little excluded, being said to communicate with the private recesses by which they are further polluted. Other quarters are apprehended to be in a state of similar depravity ; and whatever may be attributed to the *distillation* antecedently mentioned, the college of physicians have not yet admitted any salutary virtues in the tincture which private pumps are found to exhibit. Hence the impropriety of using, for any culinary purpose, the water of wells which on other accounts are everywhere ineligible ; more especially when such water incrustates

incrustates the vessel in which it is boiled. *Damnat
tur imprimis fontes, quorum aquæ decoctæ cressis obdu-
cunt vasa crustis**.

So essential to health is the purity of an element which enters into almost every composition of diet, that diseases peculiar to certain places are to be traced in its various diversity. In one of the western towns of England arthritic disorders are so prevalent, that the meanest artizan has his crutch and slipper as well as my lord-duke, and the limbs of both sexes are occasionally wrapped in flannel. In the hilly parts of Derbyshire, scrophulous tumours are no less general; and the Roman satirist has long since exclaimed,

Quis tumidum guttur miratur in Alpibus? †

The latter effect (common to mountainous countries) is induced by the nitrous salts of dissolved snow; the former proceeds from the mineral saturation that will be communicated in a larger work.—Wholesome water, where it is obtainable, ought to be more particularly regarded by the brewers of malt; on whose care the health of the public has in this instance such a general dependance.

Another cause of chronic diseases in the place adverted to, is the general smallness of rooms, rendered more injurious from an abuse of lead-paint; which, though generally esteemed inoffensive when dry, is sensibly found to relax in a humid state of the atmosphere. This is more especially the case with respect to painted canvas (used in the room of carpets), on account of its being frequently washed. Delicate constitutions must often suffer from the inspiration of such

* Plin.

† Juvenal.

such deleterious particles, and pulmonic with other disorders of the chest be ultimately consequent. The partiality for an article that is more particularly improper for bed-rooms, where it is nevertheless admitted, appears to originate in the indiscriminate use of that poison in the navy.

Mephitic effluvia from slaughter-houses and church-yards in the centre of a town, are also highly obnoxious: More insalutary is the vapour from interments in churches and other places of consecrated worship. The latter more especially must injure the health of congregations; being less capacious than the former, and therefore containing a less quantity of circulating air. In the meeting-houses of Dissenters, where that circulation is most confined, it is easy to conceive the contamination from putrid corpses buried immediately under the pews where the audience are assembled. Imbibing on a sultry day the cadaverous putrefaction then most predominant, must often produce effects which, in a public controversy with a celebrated lecturer, the writer had formerly occasion to discuss. The practice that should be interdicted by an act of the Legislature is the more to be regretted, as the community at large are eventually injured from the contagious dissemination that was then delineated.— Wherever such a custom is in general extension, it would be prudent to unite in the establishment of a place where that custom is prohibited *ab initio*. Where it has already been admitted, the windows are recommended to be kept constantly open; as they ought to be in every other place, appropriated

to public assemblage, during the intervals of association; and in warm weather, without any intermission*.

Late interments have a further tendency to multiply the funerals that are daily exhibited. It has been noticed in the antecedent sheets, that disease is most infectious subsequent to death, and a putrefaction of the animal humours often precedes the close of the tragedy. This, however, is not meant of the globulous fluid in which the vital principle is conceived to exist, and therefore to be only susceptible of putrefactivity when it has ceased to circulate. The element which Nature has provided for the common drink of every animal, however otherwise impure, is never found to be *putrid* while it continues to flow. The Nile, in Egypt, does not become tainted till a few weeks before the summer solstice; when it has no longer the fluctuation without which every channel of the deep would soon be corrupted.

Such are the remarks to which a late advertisement alluded, and which were then meant to have been exhibited in another form. They are the more deserving of attention, because not only corporeal, but *mental* temperaments, are essentially influenced by the quality of the elements that have been investigated.

*Quodque magis mirum est, sunt qui non corpora tantum,
Verum animos etiam valeant mutare liquores †.*

It

* It would be held ungrateful to dwell amidst the dead; yet St. Thomas's street, in a neighbouring district, is so closely connected, that the air in that quarter is often sensibly tainted with cadaverous exhalations. These must be progressively injurious to the constitutions of the inhabitants, and nervous debility with other chronic maladies eventually supervene.

† Ovid. Metamorph.

It will be sufficient to add that *lighting* the streets would be variously favourable to the place which, from its extent and population, has every claim to be constituted a corporation and market-town. An application to the legislative power for these important attainments could scarcely fail to be successful, but which may be long protracted in the usual disregard of what is equally the business of each individual. At the same time it ought to rouse the attention of a numerous community who have no election in the municipal government to which they are subjected, and who are still in the primæval state from which the constitution of the realm permits them to emerge.

smaller than the other, and the
other is larger than the first.
The first is the largest of all,
and the second is the smallest.
The third is the largest of all,
and the fourth is the smallest.
The fifth is the largest of all,
and the sixth is the smallest.
The seventh is the largest of all,
and the eighth is the smallest.
The ninth is the largest of all,
and the tenth is the smallest.
The eleventh is the largest of all,
and the twelfth is the smallest.
The thirteenth is the largest of all,
and the fourteenth is the smallest.
The fifteen is the largest of all,
and the sixteen is the smallest.
The seventeen is the largest of all,
and the eighteen is the smallest.
The nineteen is the largest of all,
and the twenty is the smallest.
The twenty-one is the largest of all,
and the twenty-two is the smallest.
The twenty-three is the largest of all,
and the twenty-four is the smallest.
The twenty-five is the largest of all,
and the twenty-six is the smallest.
The twenty-seven is the largest of all,
and the twenty-eight is the smallest.
The twenty-nine is the largest of all,
and the thirty is the smallest.